Observations on the MN DNR's Extended Rotation Forest Policy

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Perspectives for Assessing ERF Policy

1. The **Need** for a New Policy

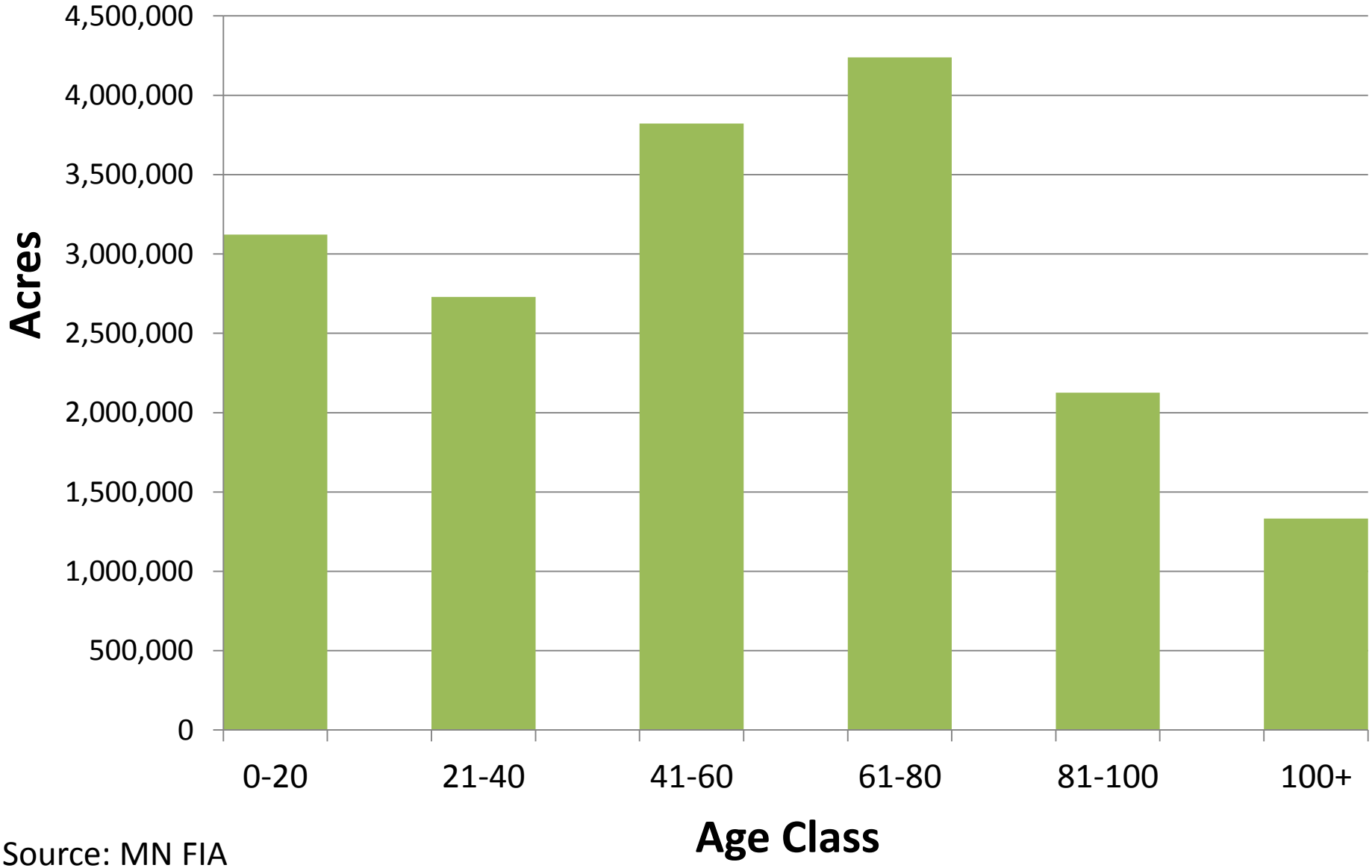
2. The **Process** for Developing New Policy
    a. Role of science/data
    b. Stakeholder/public input
    c. Communication of policy
    d. Implementation guidance

Extended Rotation Forest Policy
-- Central Questions --

1. **How much old forest land does MN have?**

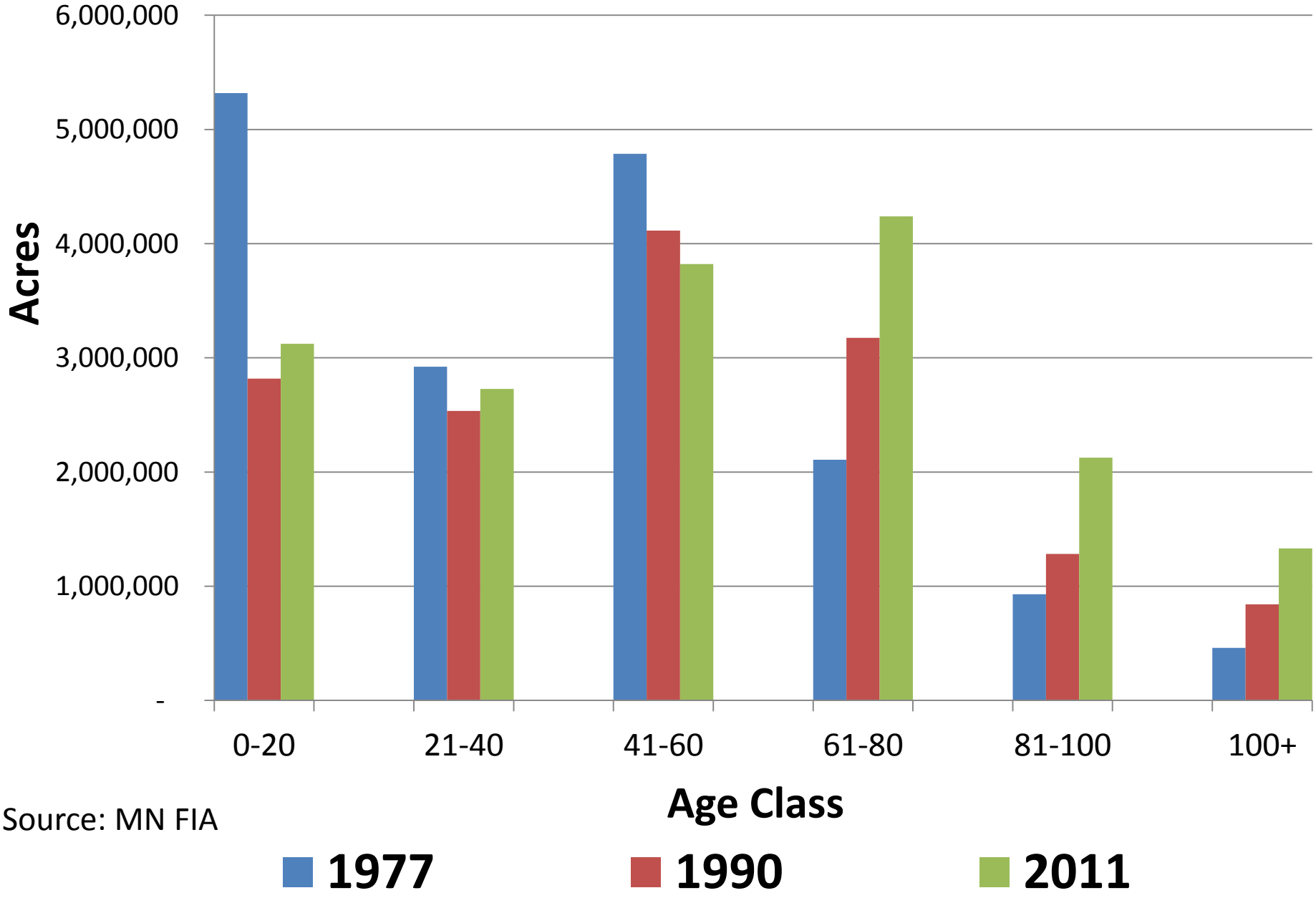
2. **What are the trends in the extent of MN's old forests?**
   - Can MN expect to see an increase /decrease in the extent of old forests?

MN Forest Age Class Structure: 2011

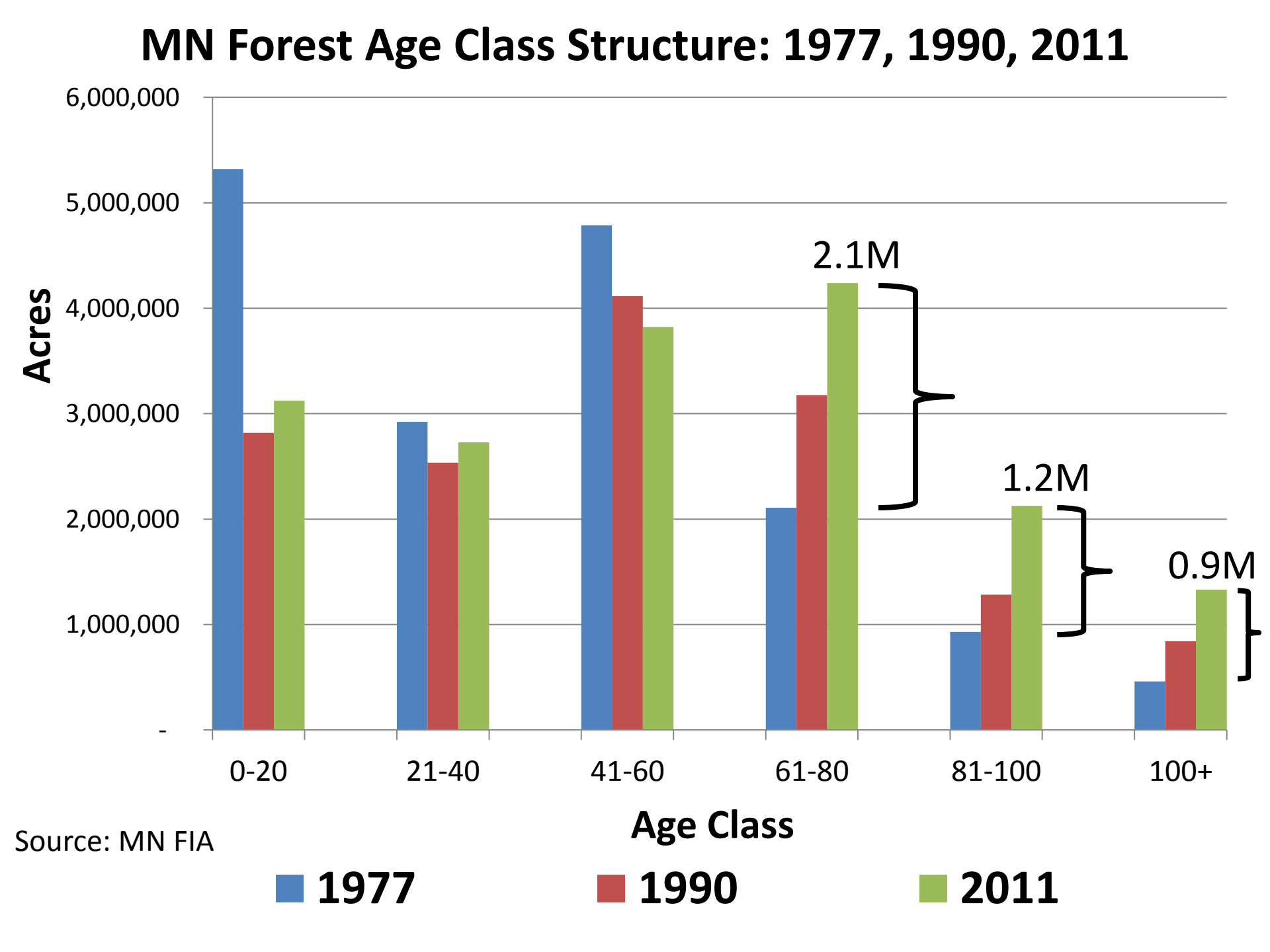


Source: MN FIA

MN Forest Age Class Structure: 1977, 1990, 2011



Source: MN FIA


MN Forest Age Class Structure: 1977, 1990, 2011
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
-
Acres
2.1M
1.2M
0.9M
0-20
21-40
41-60
61-80
81-100
100+
Age Class
Source: MN FIA
1977
1990
2011

Percent Distribution of MN's Forest Covertype Age Classes: 1977-2011

	0-20	21-40	41-60	61-80	81-100	100+
1977	32	18	28	13	6	3
2011	18	16	22	24	12	8
2011 vs 1977	-14	-2	-6	+11	+6	+5

Percent Distribution of MN's Forest Covertype Age Classes: 1977-2011

50%

	0-20	21-40	41-60	61-80	81-100	100+
1977	32	18	28	13	6	3
2011	18	16	22	24	12	8
2011 vs 1977	-14	-2	-6	+11	+6	+5

Percent Distribution of MN's Forest Covertype Age Classes: 1977-2011

	0-20	21-40	41-60	61-80	81-100	100+
1977	32	18	28	13	6	3
2011	18	16	22	24	12	8
2011 vs 1977	-14	-2	-6	+11	+6	+5

66%

1977-2011 % Acreage Change

Positive (green) Value Represents Acreage Increase

	0-20	21-40	41-60	61-80	81-100	100+
Total	-14%	-2%	-7%	12%	7%	5%
Jack pine	0%	-3%	-27%	12%	16%	2%
Red pine	-60%	29%	15%	6%	7%	4%
Balsam fir	-29%	3%	-2%	13%	10%	4%
White spruce	-48%	11%	31%	5%	3%	-1%
Black spruce	-54%	-8%	13%	22%	12%	15%
Tamarack	-34%	-4%	9%	12%	11%	6%
Northern white-cedar	-21%	-3%	-5%	-1%	7%	22%
Oak	-9%	-4%	-11%	12%	8%	4%
Northern hardwoods	2%	-5%	-12%	5%	10%	0%
Lowland hardwoods	-22%	-1%	-3%	12%	6%	8%
Aspen	2%	1%	-14%	9%	1%	0%
Birch	1%	-9%	-24%	21%	9%	2%
Balsam poplar	-8%	-1%	-7%	14%	0%	

Table 7.10. Area of old forest for 1990 and projected to 2040 for the base, medium, and high harvest scenarios, all forest lands (acres).*

TOTALS: 1.75M 5.18M 4.53M 3.43M

Forest type (threshold age)	Current 1990	Base Scenario 2040	Medium Scenario 2040	High Scenario 2040
Red pine (120)	21,200	107,496	110,344	96,944
White pine (120)	12,300	91,674	87,743	73,643
Black spruce (120)	157,800	614,219	471,636	436,736
White cedar (120)	60,000	225,600	211,569	183,990
Tamarack (120)	73,000	299,604	268,390	156,307
White spruce (90)	27,400	211,815	185,720	149,583
Oak-Hickory (120)	51,400	342,702	293,044	241,232
Elm-Ash-Soft maple (120)	69,400	483,185	416,120	295,024
Maple-Basswood (120)	37,000	404,502	344,407	181,618
Jack pine (70)	115,100	244,518	207,612	99,269
Balsam fir (70)	304,000	452,468	335,385	256,276
Aspen (70)	467,500	982,911	961,039	837,726
Balsam poplar (70)	24,900	76,629	74,129	73,029
Paper birch (70)	324,400	643,809	559,835	352,494

Source: Jaakko Pöyry Consulting, Inc. (1992a,e).

* Acreages are those determined from GEIS covertype algorithm.

Decreased Harvesting Has Accelerated the Accumulation of Old Forests

Acres Impacted Annually

1991	1996	2008
171,155	192,514	134,209

% of Acres Impacted Annually

1991	1996	2008
1.11%	1.25%	0.87%

Source: D'Amato, A.W., N.W. Bolton, C.R. Blinn, and A.R. Ek. 2009. Current status and long-term trends of silvicultural practices in Minnesota: a 2008 assessment. Staff Paper Series No. 205, Department of Forest Resources, College of Food, Agricultural, and Natural Resource Sciences, University of Minnesota. St. Paul, MN. 58 p.

Going Forward…Monitor & Report

1. **Monitor MN forest age class distribution by:**
   - Cover type
   - Geographic area
   - Ownership
2. **Monitoring should be frequent and done across:**
   - all ownerships
   - all forest lands
3. **Report and communicate findings:**
   - Internally (MN DNR)
   - Externally (stakeholders)

Summary

- **MN's Forests are aging**
  - Gained 4+ M acres of 60+ year old forests since 1977.
  - 2/3 of MN's forest land is 40+ years old
- **MN's forests will continue to age**
  - Current harvesting affects < 1% of MN's forest land/yr
- **DNR should focus on <u>monitoring</u> & <u>reporting</u> ALL forest conditions across allow ownerships**
- **Policies that disproportionately favor certain age classes (young or old forests) rarely maximize forest benefits**